

## Perceptions, attitudes and involvement of local residents in the establishment of a Samothraki Biosphere Reserve, Greece

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### Abstract

The process of establishing a biosphere reserve (BR) under UNESCO's Man and Biosphere (MAB) programme on the island of Samothraki in the NE Aegean (Greece) is conceptualized as a case study of transdisciplinarity. The point of departure has been the wish to preserve an island with unique natural and cultural heritage from potentially destructive pathways of transforming it into just another Greek beach tourist destination and to come up with an alternative development model. This has generated a unique opportunity to pre-structure, observe and reflect on a process of evolving decision making and management towards a sustainability transformation of an island. After several years of research and communication efforts, the mayor of Samothraki, with the unanimous support of the municipal council and the Greek National MAB Committee, submitted an application to UNESCO for Samothraki to be included in the World Network of Biosphere Reserves. A positive decision will make Samothraki the first post-Seville BR in Greece. After briefly introducing the study area, this report will discuss the opportunities of this new perspective, as well as the challenges that need to be faced, both on the ground and in people's minds, for the island of Samothraki to become a true model of sustainable development in the wider region.

### Profile

Protected area

(proposed) Samothraki Biosphere

Reserve

Country

Greece

### Short introduction to the area

The Greek island of Samothraki in the northern Aegean is relatively isolated from the mainland, ecologically rich with a large number of endangered and endemic species and is at the crossroads of development pathways (Figure 1). Samothraki is an island of high mountains with rich forests of unique natural beauty as well as an abundance of water in the form of small streams, waterfalls and natural springs (Figure 2). Its highest peak reaches 1611 m, making Samothraki the third highest island in the Aegean. About three quarters of its total surface area of 178 km<sup>2</sup>, covering most of the mountainous part together with a large marine area, are included in the Natura 2000 network. The current permanent population is 2840 inhabitants (2011 census), with a low population density (15 persons/km<sup>2</sup>), a number that more than triples during the peak tourist season.

In addition, the very early human presence on the island since prehistory has created cultural landscapes in the accessible lowland areas, with traditional settlements, olive groves and arable farming, which merge into the natural landscapes. Moreover, there are several cultural conservation sites, such as the capital town of Chora and the magnificent *Sanctuary of the Great Gods*, a large sanctuary of pre-Greek origin that was a place of worship devoted to the Kaveiria mysteries from the 5<sup>th</sup> century BC onwards up into the 4<sup>th</sup> century AD and the origin of the famous Nike of Samothraki exhibited in the Louvre (Figures 3, 4). Fortunately, these natural



Figure 1 – The location of Samothraki in the NE Aegean Sea, Greece © NASA, courtesy of [nasaimages.org](http://nasaimages.org) 2003

and cultural assets that make Samothraki special were kept largely intact over the years and can provide the baseline for the path of the island towards a sustainable future. The basic idea is to use the BR concept as a tool for implementing sustainable development on the island with reference to both main areas of economic activity: agriculture and tourism.

The question of whether Samothraki deserves to be a BR has been positively answered elsewhere, together with an elaborate description of how a vision that only existed in the minds of some researchers was gradually transferred to local actors (Fischer-Kowalski et al. 2011). Here, the focus would be more on future de-



Figure 2— One of many freshwater streams on the island, forming small ponds.  
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velopment opportunities and on the real or perceived conflicts they encompass, as well as on questions of ownership and identity and the willingness of the local population to continue engaging in such an effort.

### Future opportunities for sustainable development

Tourism is one of the most important sources of income for the island and provides employment to local people. There are about 40 000 visitors annually, around 90% of which come within a very small time period between mid-July and mid-August. This creates a substantial challenge for all infrastructures, which have to cope with a very high demand in a short time while remaining underutilized for the rest of the year. So the challenge of a development towards a more sustainable form of tourism should be met by efforts to reduce the environmental burden associated with tourism while seeking to increase the local income derived from it, including the generation of more highly qualified jobs that would allow young, educated people to stay on the island and earn their living there. The aim should therefore be not to increase the number of summer tourists in the peak season (which would encourage the growth of new infrastructure), but to identify attractions, activities, information channels and target groups to populate Samothraki with visitors at other times of the year.

Moreover, a further development of the secondary processing sector that has had a rather modest profile could be beneficial for the island's sustainable development. In particular, Samothraki can develop sustainably in branding itself for organic agricultural products such as cheese, meat, leather and olive oil. The case of olive oil production is particularly promising as there is the realistic possibility of producing 100% organic olive oil from the island. This could lead to a substantial increase in revenue through the improvement of the production / value chain, with a minimal effect on the environment. A prerequisite for such a shift would be the interest of a critical number

of young farmers willing to change practices, as well as an appropriate strategic marketing initiative.

### Issues of identity

Protected areas are often criticized for being underexploited, so there is a pressure to assign them an economic value; yet it is usually their non-market values that make such places special in the first place. A common practice in European peripheries has been to rename marginalized rural areas *natural wilderness* in order to promote their sustainability. This *rebranding*, however, does not always enhance the viability of such regions since the new image often fails to make the place more attractive for the local population but rather reinforces its peripheral status (Green 2005).

Referring to cultural landscapes, Bridgewater (2002) rightly mentions that we cannot understand and manage a *natural* environment unless we understand the human culture that shaped it. From a BR manager's perspective, the environment should be treated as an integral part of people's lives and the local culture needs to be understood as a way of life and an evolving interaction with nature, rather than as an attitude to be preserved (Campbell 2005). From a researcher's point of view, the process of a *slow unravelling of local meanings and language* in what Garavan (2012) calls dialogic research is vital when trying to achieve mutual understanding.

To draw a specific example from Samothraki: local knowledge could be of particular relevance in understanding the traditional governance of the water management system. Water supply on Samothraki is organized via communal cisterns on the one hand and ancient (or less ancient) neighbourhood rights on the other. While there is still an abundance of freshwater in some places, there is scarcity in others and the archaic distribution system is reaching its limits, particularly if – as a consequence of climate change – winters with little or no snow become more frequent, as happened in recent years. Further planning and management of tourist facilities should systematically take into account their water supply issues. Drawing a (narrative) picture on traditional forms of water supply management, their technological and institutional features, and contrasting it with quick-and-dirty estimates of current water demand could be a pathway that builds upon traditions but also creates innovations towards developing a less wasteful and unpredictable management system in future years.

### Social perceptions

Wallner et al. (2007) identified three main categories influencing local residents' perceptions of BRs, i.e. the economic situation, the history of nature protection and the power balance of the stakeholders involved. Any possibility of gaining some economic benefits, coupled with meaningful employment, will almost



certainly lead to a more positive evaluation of the BR. Moreover, the protection status must be accompanied by practical steps in supporting local livelihoods and inverting the notion of traditional as being backward-looking and restrictive. Goat keeping on the island is a good example of how social and economic drivers that are reinforcing a major local environmental problem can be shifted to generate more sustainable practices.

There is currently an excessive number of free-roaming goats and sheep on Samothraki (an estimated 60 000–80 000) maintained by EU subsidies. Overgrazing has been identified as a major problem on the island, which, coupled with illegal logging and wood extraction, is causing soil erosion and deterioration of the forests at an alarming pace. The problem is exacerbated by rising oil prices and the inability of locals to afford paying for imported wood due to the current economic situation in Greece. In addition, there is an administration gap, since the Forest Service responsible for monitoring currently employs two people on short-term contracts whose future position remains precarious due to central government planned budget cuts.

While everyone on the island acknowledges that the number of goats is not sustainable, it is interesting how an essentially recent problem is often presented in local discussions as something normal, typically Samothrakian, and thus (also referring to previous failed attempts to tackle the issue) is perceived as an inevitable, necessary evil, only to be *resolved by itself*. This latter reveals the dependency on EU policies and the lack of trust in the local authorities, and it might turn out to be partly true, since the present form of European CAP subsidy financing goat keeping irrespective of their effective utilization will cease by 2013 – so there is a real window of opportunity to engage in different practices.

In order for goat keeping on Samothraki to continue being profitable, a better utilization of the animals via an improved slaughtering/exporting chain will be necessary. A regulation-compliant slaughtering house and butchering/packaging facilities that will allow exporting goat meat could be an incentive to bring down the number of goats while generating more revenue for the farmers. The economic benefit of a smaller number of goats for the municipality could be further enhanced if one takes into account the (avoided) costs of rebuilding the roads destroyed or threatened by soil erosion.

### Institutional framework

The history of top-down nature protection in Greece and the lack of local community participation are of particular relevance here. In a number of cases, centrally planned approaches of environmental management have resulted in a lack of communication and trust and generated conflicts with the managing bodies (Oikonomou & Dikou 2008; Trakolis 2001), as well as



Figure 3 – A panoramic view of the capital town Chora, a cultural conservation site. © Sophia B. 2008, <http://samothrakisphotoblog.com>



Figure 4 – Temple ruins at the Sanctuary of the Great Gods. © Sophia B. 2007, <http://samothrakisphotoblog.com>

creating negative images of protected areas in general, resulting in their inefficient management (Dimitrakopoulos et al. 2010).

This partly stemmed from the lack of a legal framework enabling active public participation in the planning and decision-making stages. The implementation of the Habitat Directive (92/43/EEC) that gave rise to the Natura 2000 network was an opportunity to change this and enable more participation as it allowed the establishment of new autonomous and non-departmental managing authorities to administer the new sites. This has been an important turning point in the institutional history of protected areas in Greece. Twenty-eight such managing authorities have been established throughout the country, but their effectiveness varies, depending on the willingness of local actors to participate and on already established power relations (Papageorgiou & Vogiatzakis 2006).

The fact that the core zones of the proposed BR correlate nicely with the Natura 2000 area on Samothraki should, in theory, make it easier to manage as one could use existing structures (Figure 5). However, the Natura 2000 area on Samothraki is not officially designated by a Presidential Decree, so there is still a legislation gap. This poses both a drawback and an op-

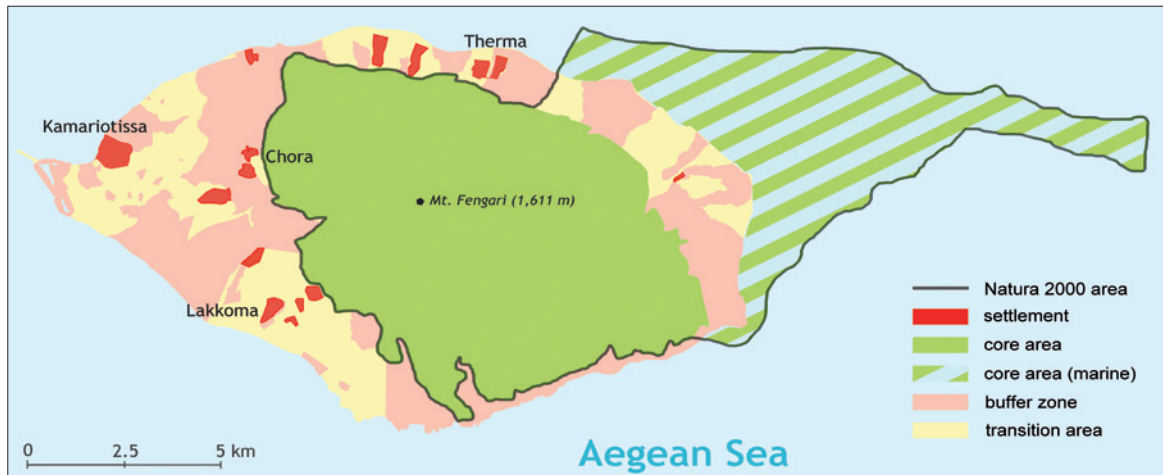


Figure 5 – Zonation of the planned Samothraki Biosphere Reserve, including the marine extension of the initial Natura 2000 area, but excluding a more recent extension of the Natura 2000 area to the west of the island. © Chanos & Scoullou (2011)

portunity for a bottom-up participatory establishment of a management body, if only there is political will at the municipal level.

A constructivist approach of looking into the future while opening up to the local population would be to organize a deliberative visioning / back-casting workshop on the island, i.e. constructing desirable future scenarios and then looking back on how to get there (Quist & Vergragt 2004). Even though lessons from a similar effort on another Greek island suggest that such events have little added value in a country with a lack of formal administrative policy planning (Kallis et al. 2009), such a workshop on an island like Samothraki, with less than 3000 permanent residents already alerted to the issue, would improve the social cohesion of the community and give a sense of ownership of regulations, leading to more robust and sustainable future decisions.

## Conclusion

So far, the timeline of establishing of a BR on Samothraki has been one of committed research, continuous communication efforts and an honest willingness for cooperation and mutual understanding. In this transdisciplinary process, the BR vision needs not only to be transferred to the local population but also to be fully appropriated in order to create a truly sustainable future for Samothraki. What is required, in addition to time, some stable funding and perhaps initial external support, is a handful of dedicated individuals willing to take on the risk of experimenting with novel, more inclusive, management practices.

What scientists can contribute to this process with their short-term and more focused research funds, is to open up the discussion, provide new and well founded information on the natural dynamics, the socioeconomic aspects and the perceptions and attitudes of local people towards the future direction of the island, in order to reach a broader and deeper consensus. What science must not do is replicate the

past role of the Forest Service and other higher level authorities in dictating what should and should not be done on the island. Rather, it should step back and leave the crucial part of decision making to the local community.

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